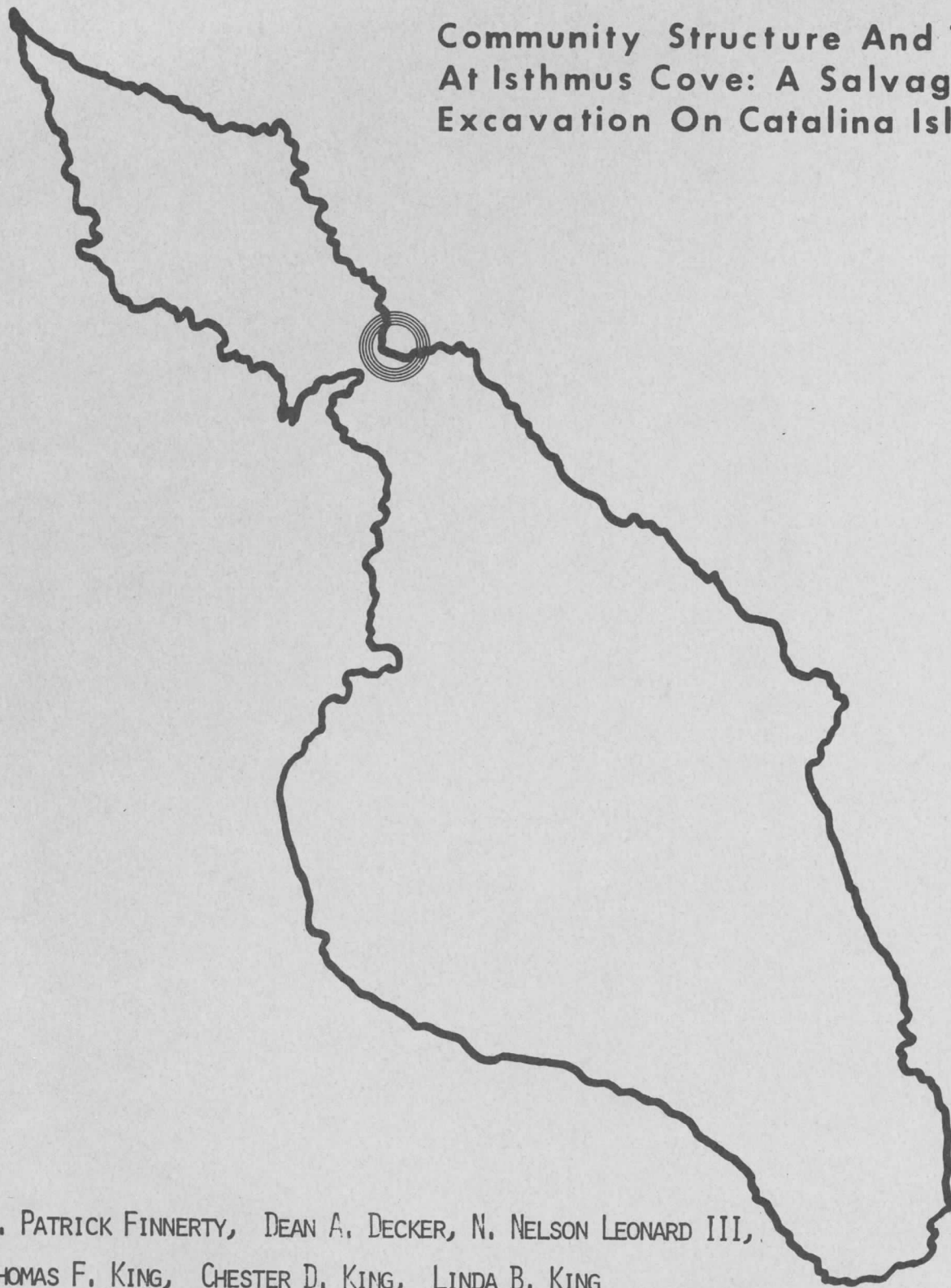


Community Structure And Trade
At Isthmus Cove: A Salvage
Excavation On Catalina Island



W. PATRICK FINNERTY, DEAN A. DECKER, N. NELSON LEONARD III,
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395

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PACIFIC COAST ARCHAEOLOGICAL SOCIETY OCCASIONAL PAPER

Number 1
1970

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P. O. Box 4
Ramona, California 92065

1981

COMMUNITY STRUCTURE AND TRADE AT ISTHMUS COVE: A SALVAGE EXCAVATION ON CATALINA ISLAND

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INTRODUCTION

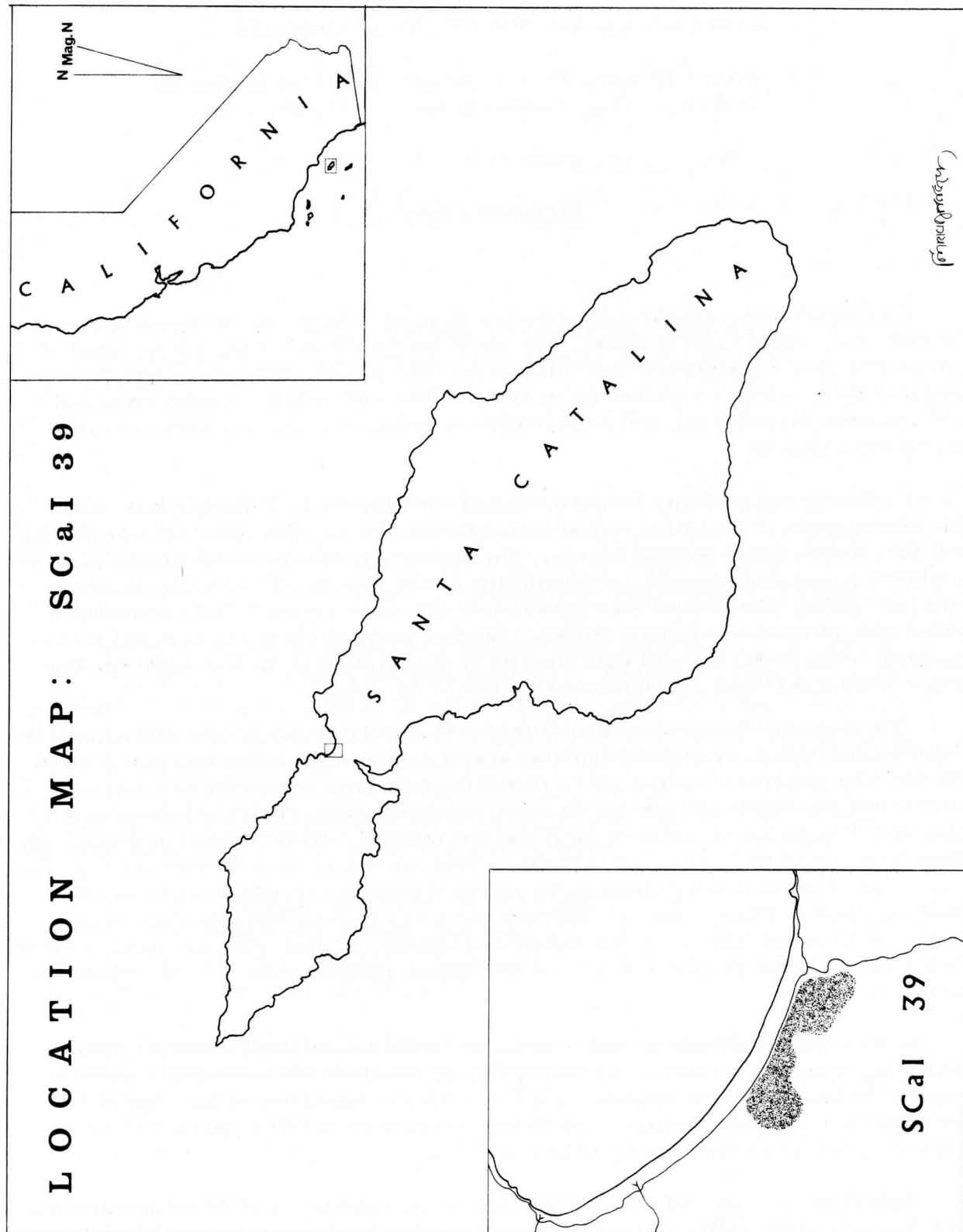
This report deals with the excavation of 4-SCaI-39, a large archaeological site on Isthmus Cove, Santa Catalina Island. The site is near the center of the curving shore of the cove, beside the mouth of a north-flowing periodic stream. The site is largely occupied today by houses, a pavilion dating from the late 19th century, parking areas and other modern constructions, and is surrounded by groves of palms and scattered eucalyptus trees (Map I).

Excavation was conducted for ten days in late October-early November 1969, under the joint auspices of the UCLA Archaeological Survey, the Catalina Island School for Boys, and the Catalina Island Museum Society. The former two institutions had organized a cooperative program of research and education in archaeology in 1967. Jack D. Zahniser was the Catalina Island School's archaeologist at that time, and the UCLA archaeologist principally involved was E. Gary Stickel. Zahniser excavated at Toyon Cove and Empire Landing, while Stickel directed CISB students in an excavation of the Escondido Site near Little Harbor and began a comprehensive survey of the Island.

The general program of archaeological investigation on Catalina, pursued initially by Zahniser and Stickel and articulated in the General Archaeological Plan Proposal of 1969 (UCAS 1969), involved a study of inter-site and inter-drainage variability as a means toward better understanding economic structure and development. Catalina economics are regarded as important (1) because the Island constitutes a relatively closed ecological unit whose study would be useful toward building models relevant to more diffuse societies, and (2) because Catalina was the ethnographic source of steatite, a crucial item in southern California trade. Trade in coastal California has yet to be dealt with cohesively in archaeological literature, and it was felt that no understanding of trade systems among southern California aboriginal groups could be complete without adequate study of trade-related activities on Catalina.

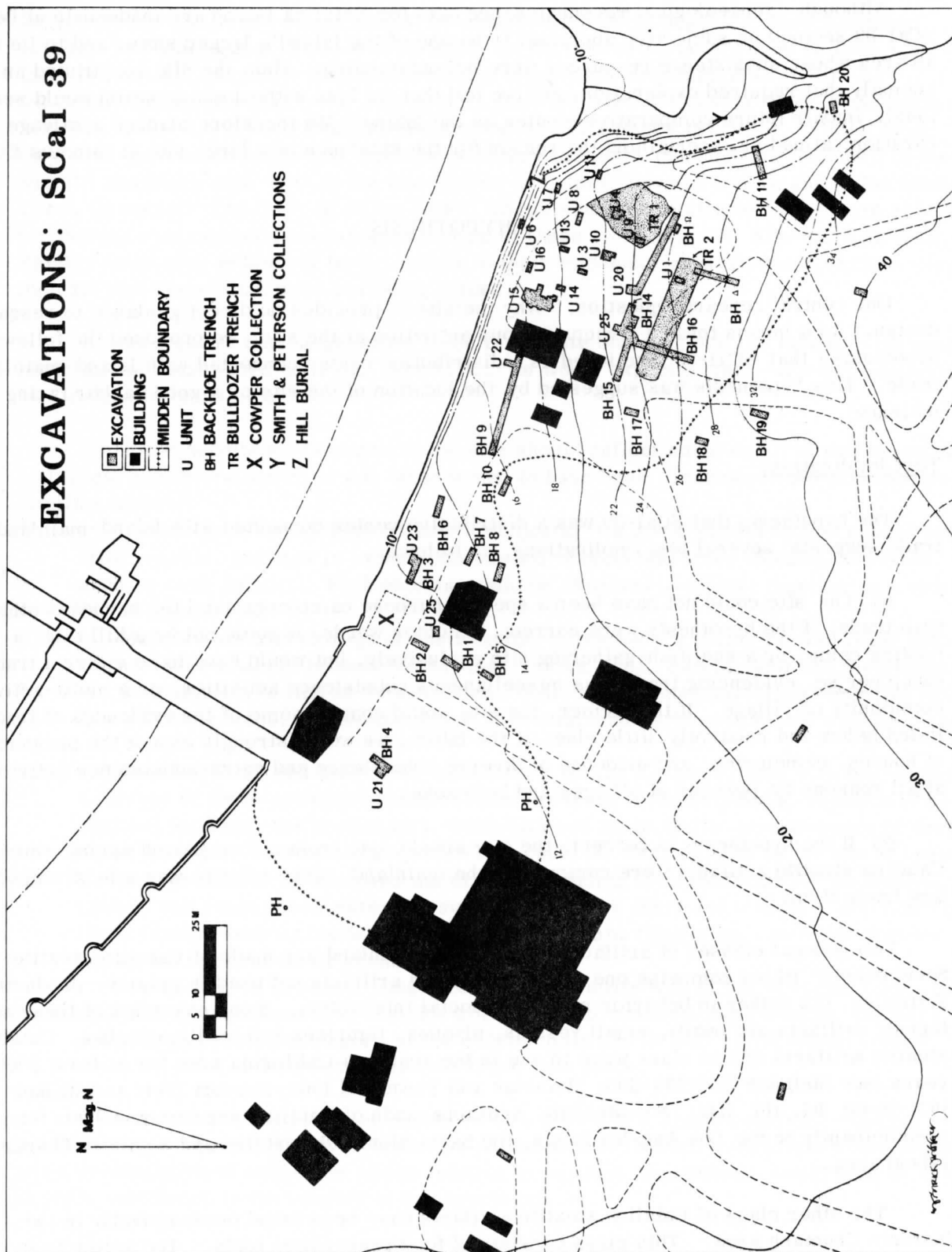
As the research and educational program proceeded toward implementation, another urgent factor became apparent. A General Plan for the urban and recreational development of the Island had been prepared by William Pereira Associates of Los Angeles for the Santa Catalina Island Company, and Bechtel Corporation had developed a specific program for a new urban center at the Isthmus.

Richard Snyder, who had assumed direction of the Catalina Island School archaeology, and Tom King of the UCAS, who had been briefed on the development plans, visited the Isthmus in September, 1969 and found that SCAI-39 lay directly in the path of planned construction.



EXCAVATIONS: ScaI 39

- EXCAVATION
- BUILDING
- MIDDEN BOUNDARY
- U UNIT
- BH BACKHOE TRENCH
- TR BULLDOZER TRENCH
- X COWPER COLLECTION
- Y SMITH & PETERSON COLLECTIONS
- Z HILL BURIAL



MAP 2

Although archaeological reconnaissance data for Catalina Island are inadequate at best, SCAI-39 seemed on subjective appraisal to be one of the Island's larger sites, and to lie in an area whose subsistence resources were not outstanding. Thus the site constituted an anomaly that required explanation, and we felt that its loss without examination would seriously impair future comparative studies on the Island. We therefore planned a salvage excavation, aimed at ascertaining the reason for the existence of a large site at Isthmus Cove.

HYPOTHESIS

Our central research question, "Why the site?" provides no direct guidance to research design. As a means toward structuring our activities at the site, we proposed the following hypothesis: that SCAI-39 functioned as a distribution center connected with Island-mainland trade. This hypothesis was suggested by the location of the site on a good harbor facing the mainland.

Test Implications

The hypothesis that SCAI-39 was a distributive center connected with Island-mainland trade suggests several test implications, as follows:

(1) The site could not have been a special-purpose camp organized for purposes other than trade, if the hypothesis were correct. In other words, it could not be a kill site, a hunting camp, or a shellfish-gathering site exclusively, but would have to be either a trading camp per se, evidencing trade plus miscellaneous subsistence activities, or a multi-activity community or village. If the former, the site would contain some of the evidences of trade listed below and relatively little else; if the latter, we would strongly expect the presence of houses, cemeteries, and evidence of diverse subsistence and extra-subsistence activities at all seasons by persons of all ages and both sexes.

(2) If the hypothesis is correct, the site should date from a time period during which Catalina steatite artifacts were common on the mainland, since steatite was a most important trade item.

Two general classes of artifacts found on the mainland are made of Catalina steatite. Sociotechnic items comprise one class; these are artifacts not used in primary production activities, but rather in behavior related to social interaction. Some examples of these sociotechnic artifacts are beads, small vessels, plaques, figurines and phallic effigies. Catalina steatite artifacts of this class were in use in the southern California area for at least 3000 years (see Meighan 1959:390-395; Reinman and Townsend 1960; Burnett 1944; and Walker 1951:58-60, 95, 110, 114). Sociotechnic artifacts made of Catalina steatite have been found predominantly in the Los Angeles Basin, the Santa Monica Mountains and southern Channel Island area.

The other class of Catalina steatite artifacts have been found predominantly in the historic Chumash area. This class consists of food preparation tools. The artifacts in this class include bowls, small-mouthed ollas, large comals (frying plates) and small comals (heated for basket boiling). A few open-mouthed bowls and small comals were used in the Chumash area over a fairly long time period. However, larger steatite artifacts

were evidently used only in the historic-*proto*-historic time periods. Cemeteries with large steatite ollas and comals almost invariably have glass beads or other European artifacts in them. Most of these cemeteries do not date from before 1500 or 1600 A.D. (See Chronology Chart 1). Schumacher found large ollas in cemeteries at Nipomo (SLO-92), Temesathi (SLO-89), and Hunejel (SLO-93) on the Cuyama River (Schumacher 1875:345, 348); they were found in late context at Avila Beach (SLO-56). To the south they have been found in the Dos Pueblos cemetery (SBa-78) (Schumacher 1877:52); in the Saqqpilil cemetery (SBa-60); at the late Rincon cemetery (Bowers 1884a); and in the Medea Creek Cemetery (LAn-243) (L. King 1969). Large numbers of steatite sherds are reported for midden excavations associated with some of these sites (SBa-78, SBa-60, LAn-243). Earlier sites have relatively fewer sherds in their middens; excavations in earlier sites indicate that large ollas were not being traded.

It thus appears that large-scale trade in steatite objects from the Island to the mainland was not established until ca. 1500 A.D.; we would expect a trade-oriented settlement on Catalina to be no older.

(3) If the hypothesis is correct, the site should reflect some or all of the following activities, which are known or can be assumed to have been elements in the process of Catalina trade:

- a. Manufacture and storage of steatite objects; we would expect to find unused steatite vessels, perhaps in caches, unfinished vessels and other objects, and tools used to work steatite. Such objects would be expected to cluster together in a meaningful fashion.
- b. Manufacture and storage of shell beads, which were a major item in trade between the northern Channel Islands (Santa Rosa, Santa Cruz, San Miguel) and the mainland. We would expect to find caches of beads, bead blanks, manufacturing tools like drills and polishing slabs, substantial Olivella debris, and perhaps discrete workshop areas.
- c. Boat building, and operation, providing a means for interaction with the mainland. Evidence of these activities would include presence of canoe planks, deposits of asphaltum caulking, tar applicators, adze-bits and large drills, and presence of deep-water fishbone, representing species that could be obtained only by the use of boats.
- d. Receipt and use of mainland materials, including such foodsources as antelope, rabbit, and yucca, tool materials such as Monterey chert and obsidian, and non-utilitarian items such as beads made from Pismo clam (Tivela sp.) or other species known not to occur on or around the Island.
- e. Cemeteries, if present, should contain individuals who in life occupied trade-related roles: entrepreneurs, steatite workers, bead makers, boat owners, builders, and operators, and managers of the ceremonials and fiestas within whose context much or most of southern California trade took place.

It should be stressed that the presence or absence of a single variable would not in itself prove or discredit the hypothesis; we expected only that our excavation would produce some constellation of attributes whose relation to our test implications would give us much or little confidence in the validity of our hypothesis.

STRATEGY AND TECHNIQUE

The test of our hypothesis required first and foremost that we seek evidence of differential activities across the site. Were there steatite working areas, fiesta facilities, residences of traders, or trading groups? Were there areas where the processing of local or traded-in resources was in evidence? Where were the cemeteries that might yield evidence of status and role?

The solution of these problems required a well-distributed sample from all parts of the site. This sample had to be obtained in a minimum time, with a large crew of varying experience, and with minimum disturbance to present-day structures and subsurface features (gas, water, electrical and telephone lines and a high-pressure sewer main).

We implemented our research design through a variety of complementary operations. First, a number of 1 x 2 and 2 x 2 meter sample units were spread out over the observable midden. Second, a backhoe was used to (a) define the actual midden boundaries, (b) obtain profiles, (c) seek features, and (d) remove overburden. Third, a bulldozer was employed in the exposure of large features. Fourth, area-excavations and sample units were opened in significant loci revealed by the power equipment, and a soil sample was taken from each of four areas that appeared to represent the locations of major differential activities.

All sample units were excavated in ten centimeter arbitrary levels, with all material passed through 1/4" screen, except that 1/8" screen was employed in the excavation of units 4 and 21. Burial matrix was screened all or in part through 1/8" screen. Different experience levels on the part of screeners may in some cases have skewed recovery, though an attempt was made to control this problem by placing at least one fully professional worker in each unit. Soil samples were taken in 25 cm. square columns in 10 cm. levels, from units 6, 21, 22, and 25 and have not been processed. A one meter square unit (25) was also removed in 10 cm. levels from the large garbage pit revealed by Backhoe Trench 14; and all material caught in a 1/4" screen was retained. Due to time limitations, the extensions of Unit 15 (excavated with a 1/4" screen), dug to expose Feature 1, were done by trowel and shovel without screening. Parts of Unit 23 were also removed without screening. Backhoe operations were conducted under constant supervision by one or more archaeologists. Bulldozing was done using a variant of the "audio-visual" technique described by King, Wildesen and Schenk (1970). The bulldozer cuts were carried to sterile subsoil, which then was scraped and brushed to reveal pits, postholes, and other features. All excavation units were carried to sterile, and auger borings were made in the bottoms of most units in search of buried features or strata. Profiles were drawn of most unit walls and of all backhoe trenches that revealed midden.

DATA

The following consideration of primary data resultant from the excavation of SCAI-39 is by no means meant to be a "site report" as such. Aside from what is necessary to general understanding of the site and its excavation, the only data that will be considered here are those that directly relate to the test implications listed above. Further, since this report

constitutes a preliminary statement on our general research program, we have devoted our work to the generation of general observations at the expense of disseminating specific facts. All artifacts and notes will be available for use in valid research through the Catalina Island Museum Society.

The Environment

An attempt was made to map the distribution of important subsistence resources around SCAI-39 as they would have been when the site was a functioning village, on the basis of Thorne (1967); interpretation of aerial photographs of the Isthmus; the records of the University of Southern California Marine Biology Station in Fisherman's Cove as interpreted for us by Kim McClenaghan, Resident Marine Biologist; and the studies of Doug Propst, manager of the Catalina Rock and Ranch Company.

We were, however, able to generate no confident reconstruction of the quantitative significance of autochthonous resources, in terms of population sizes, calories, protein weights, or any other measure that would enable us to assess the potential importance of particular resources in the aboriginal economy or the size of human population the total resource base might support. There are two complementary reasons for this: first, such quantitative measures have not been established for many of the extant biotic populations, terrestrial or littoral. Second, the Island has undergone traumatic change since pre-contact times. Severe overgrazing, woodcutting, land modification and introduction of exotic species have transformed the terrestrial communities to an unknown but considerable extent; the more destructive of these agents are only now being brought under control through modern land-use practices. The impact of commercial and sport fishing and shellfishing on a large scale, and of the many kinds of pollution that have been felt in the Channel in the last fifty years is also unknown. In general, though, it is probable that SCAI-39, when occupied, lay in a generally grassland environment bordering on a rather productive rocky coast, with some access to acorn groves and sage fields. Terrestrial food animals were almost nonexistent (Propst, Personal Communication 1969), though the Island may have supported a deer population (Bolton 1930). In short, the environment was probably adequate but not bountiful for the support of a hunter-gatherer society.

Settlement Type

Excavation revealed that SCAI-39 was almost twice as large as first assumed, and was composed of two possibly equal-sized lobes connected by a narrow band of midden running along the shore of the cove (Map 2). The northwest lobe was buried under up to 1.5 meters of sand and fill and underlay several major modern structures; so our sample of it was limited to Units 21, 23, and 25, several backhoe cuts, and two auger borings. Our need in defining the type of settlement represented by this large site was to ascertain whether there was evidence of structures, cemeteries, and diverse activities, suggesting a permanent village, or whether there was evidence of limited and specific activities, indicating a special purpose, seasonal, or temporary camp.

Structures: Evidence of at least two structures was recorded at SCAI-39:

Feature Two : Feature Two (Fig. 1) was a large (ca. nine meters in diameter) circular depression near the southwest edge of the southeast lobe. It was dug into the clay subsoil and no floor as such could be discerned; but two probable postholes were exposed in

Backhoe Trench 15. The pit could not be completely cleared because an active pipeline crossed it, but after it was located in Backhoe Trenches 14, 15, and 16, and its southwest arc defined in Bulldozer Trench 2, the center of the pit was dug out by backhoe in search of a central hearth or other architectural features. No such features were found, but several small trash-pits were recorded, suggesting aboriginal disturbance. The bottom 20-30 cm. of fill in Feature Two was normal dark friable midden, but the upper 40 cm. was almost solid shell and bone debris, full of whole *Haliotis* and *Astraea undosa* (abalone and "wavy-top shell") valves, sea mammal bones, fishbone, and artifacts including core tools, hammerstones, mortar fragments, asphalt applicators, and fishhooks.

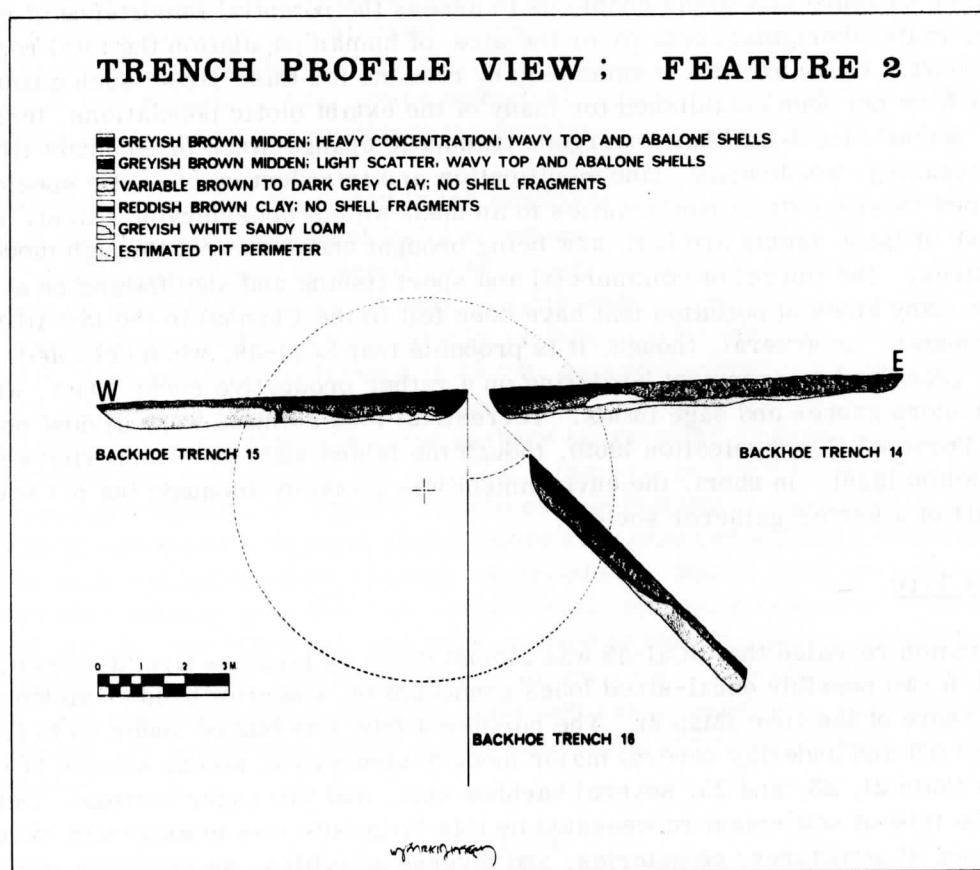


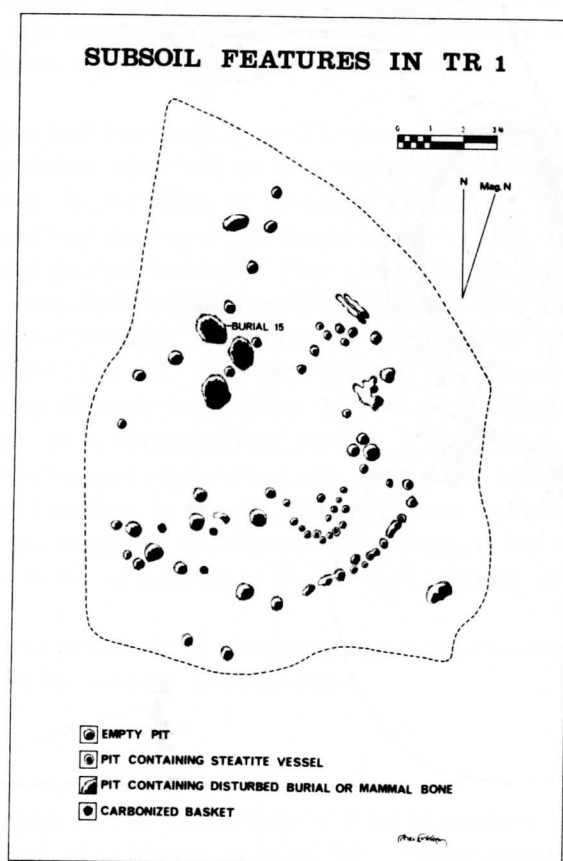
FIG. 1

The size, shape, and arrangement of possible postholes in Feature Two, compared with archaeological and ethnographic southern California houses, suggests that it represents a structure.

Bulldozer Trench 1: Sixty-four postholes were exposed in the subsoil in Bulldozer trench 1 (Fig. 2). One series, in the northwest corner of the trench, would form a circle 10-12 meters in diameter, and several smaller arcs were visible in various parts of the trench. Several containers, possibly representing storage or cache vessels, were also located in the subsoil among the postholes; these included steatite bowl fragments and tar-covered coiled baskets, some with *Olivella* bead inlay. This area was also the locus of four burials, all of which had been excavated earlier (probably by Glidden; see below) and redeposited.

Plotting midden depth contours from backhoe trench and unit profiles (Fig. 3) reveals two areas of anomalous depth in the southeast lobe: one at Feature Two, and one in Bulldozer Trench 1. We feel that this combination of attributes- regular large depressions, postholes, and in one case, possible storage facilities- is sufficient to suggest that at least two circular, semi-subterranean structures, each 9-12 meters in diameter, existed concurrently or in sequence in the southeast lobe of SCAI-39.

FIG. 2



Cemeteries

Possibly the largest readily accessible site on the island, the Isthmus site appears to have repeatedly undergone "investigations" at the hands of early archaeologists, museum

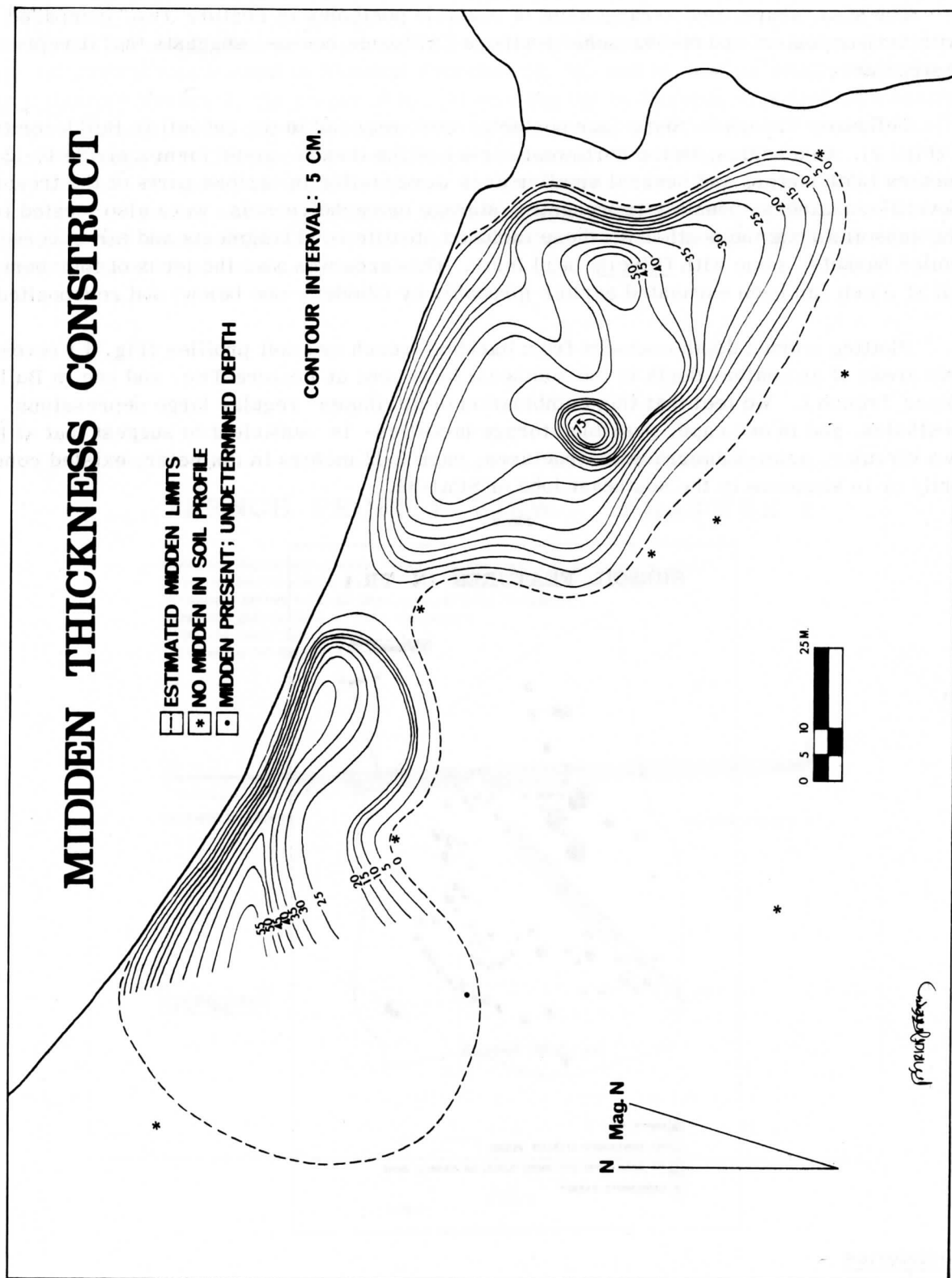


FIG. 3

excavators, and curious visitors. Undoubtedly these efforts seriously biased our assemblage sample with regard to many artifact types (Glidden alone recovered seventeen mortars from the midden); but the data left by early excavators does allow us to make a statement concerning the presence of a cemetery at the site. Paul Schumacher, in the report of his 1875 expedition reported that "a few skeletons [were] dug up at the isthmus," and an accompanying map located "Graves" at a point adjacent to the present Pavilion (Schumacher 1877: 49-50). Schumacher was apparently somewhat more successful during his 1877 expedition, as he listed well over 200 artifacts taken from "Graves at the Isthmus" (Williamson 1904: 41, 60-62); and Holmes later described the midden as containing "many burials" (Holmes 1900:185). C. F. Holder, working with Dr. William Channing of Boston, trenched the site in 1887, and "worked down through four or five layers of graves" (Holder 1910: 28). The burials excavated were apparently somewhere to the south of the main deposit, and writing in 1895, Holder considered the graves to be "completely looted" (Holder 1895:27, 33). It is noteworthy that a large number of burial associations excavated by both Schumacher and Holder were European artifacts of various types. George Shaffer, whose collection was acquired by the University of California around the turn of the century, gave provenience for several artifacts as "burying ground near shore at the Isthmus" (Lowie Museum Catalogue); and Ralph Glidden, an excavator for the Heye Foundation in the 1920's, recorded fourteen Isthmus burials "found at beach on a bluff twenty feet high in dry black sand." From these accounts it seems evident that (1) there were quite a large number of burials located in or adjacent to SCAI-39 and (2) there were at least two concentrations of burials, possible cemeteries, one near the beach and another possibly on the landward side of the site.

The only recent and reasonably well documented collection of burial data from SCAI-39 prior to our excavation occurred in 1964 when Mrs. Dorothy Cowper, a member of the Archaeological Survey Association of Southern California, chanced to be vacationing at the Isthmus when several burials were encountered during the digging of a pit for a subterranean gasoline tank near the Harbormaster's Pier (See Map 2). Although plagued by curio-seekers and lack of control over the destruction of the burial complex, Mrs. Cowper recorded the presence of about seven burials, all evidently in flexed or frog positions, lying along the seaward (northeast) side of the pit. She recovered a great many *Olivella* beads and a number of other artifacts; the salvage excavation will be the subject of another report to be submitted for publication to the Archaeological Survey Association (Cowper, Personal Communication 1969). Our own burial recoveries are discussed in detail below; for the definition of settlement type it will suffice to report that numerous burials were recovered in the southeast lobe; and a burial complex excavated at the edge of the northwest lobe (Unit 23, Burial 10 Complex) appears to be an extension of Cowper's burial group.

In summary, the presence of several organized cemeteries at 4-SCAI-39 is indicated by the data recovered by several excavators.

Range of Activities

Evidence of trade-related activities will be discussed in detail below. In general, the following activities are in evidence at SCAI-39. These generalities are based on subjective observation and are subject to modification when the midden constituent analysis is complete.

(1) Gathering and processing of hard seeds, indicated by the presence of millingsstones and handstones, particularly in Feature 1 (Fig. 6).

(2) Gathering and processing of pulper vegetal products, represented by mortar and pestle fragments, and "donut stone" digging stick weights (Fig. 7).

(3) Gathering of Haliotis sp., Astraea sp. and several other shellfish in quantity, represented by the presence of species in large, intense shell lenses and indicating exploitation of rocky and sandy foreshores.

(4) Fishing in the immediate littoral environment, represented by the presence of species like sheepshead (Pimelometopon pulchrum) in the midden in quantity.

(5) Deepwater fishing, indicated by the presence of such species as tuna (Thunnus sp.) in the midden and by the recovery of numerous circular shell fishhooks.

(6) Acquisition of marine mammals, illustrated by the bones of porpoise and sea otter in the refuse areas.

(7) Manufacture of steatite vessels and other objects, represented by unfinished objects and tools that could produce the manufacturing marks seen on the unfinished specimens.

(8) Mortuary activities, indicated by the numerous burials.

(10) Storage of goods, suggested by the presence of tarred baskets such as were often used for this purpose (E. G. Craig 1967:103).

Conclusion: On the basis of the evidence cited above, we conclude that it is very probable that SCAI-39 was a generally permanent, multi-activity village.

Trade at SCAI-39

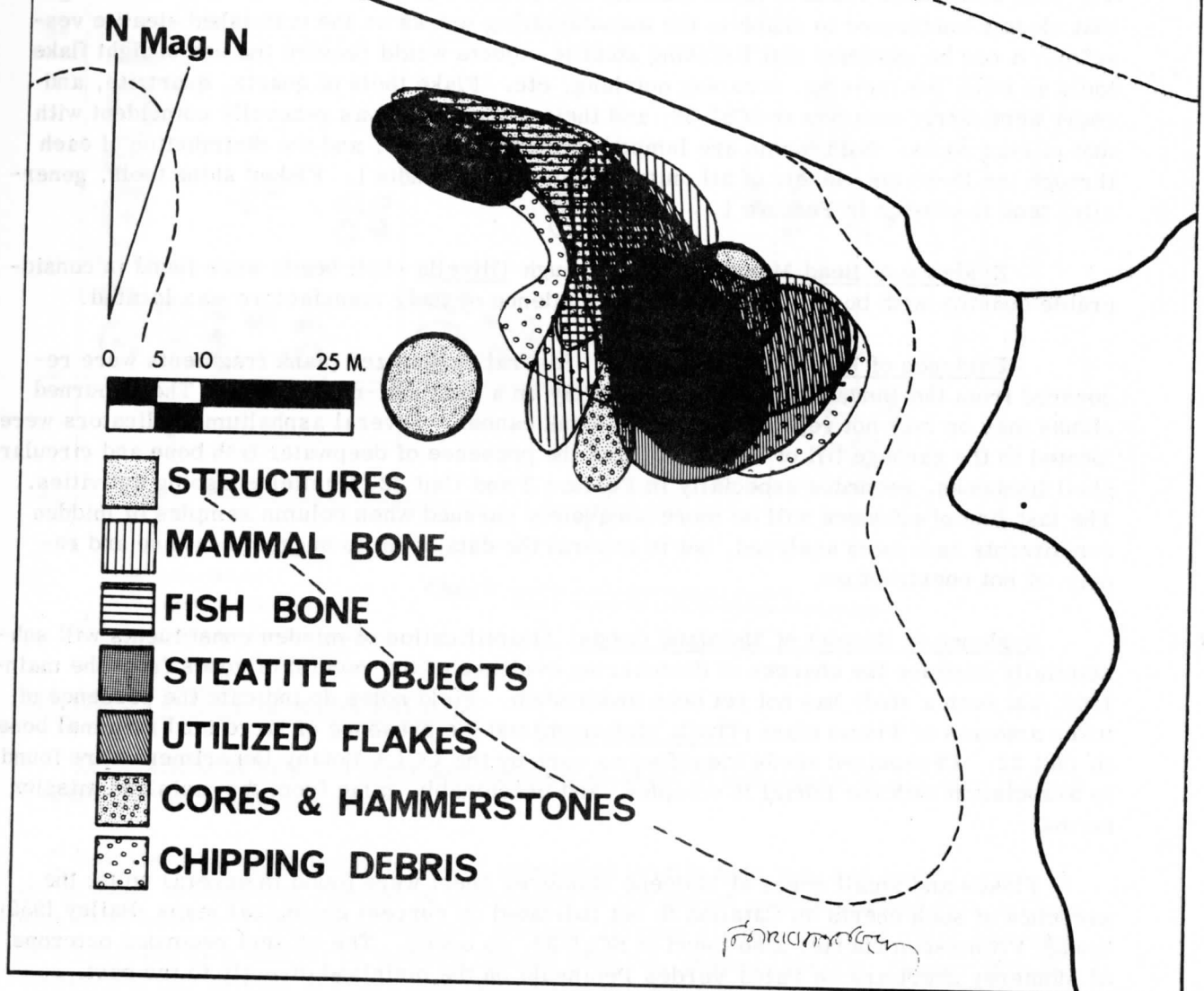
Evidence of trade at SCAI-39 would include evidence of manufacture and/or storage of steatite objects or shell beads, the construction and use of boats, receipt of mainland materials, and recognition of trade-related roles. The presence and absence of such evidences are discussed below in turn.

General Distribution of Steatite: Map 3 projects the distribution of selected artifacts and constituents across the site from their distribution in the 10-20 and 20-30 cm. levels of all units (the only levels analyzed for our present study). Feature 1, 50 cm. deep in Unit 15-Extension, is also included in Map 3. As can be seen steatite tends to be concentrated (1) in Feature 1, and (2) in an area adjacent to the structure located in Bulldozer Trench 1.

General Description of Steatite Artifacts: Steatite objects from SCAI-39 fall, for the most part, into two gross categories: vessel sherds and comal fragments. Vessels seem to have commonly been wide-mouthed bowls and shallow dishes, the latter often with single projecting "handles" (cf. Meighan 1957 Fig.5); one fragment of a small-mouthed globular pot is recorded. Comals, flat "frying pans" which usually have a single perforation at their small ends, are common, usually in fragmentary form.

Unusual objects include an inscribed plaque, a pendant, a bead, and a narrow translucent green talc tube; the latter was recovered by Mrs. Peterson, a resident of the site,

DISTRIBUTIONAL MAP



MAP 3

in the road cut at the east end of the site, where Mrs. Helen Smith of the Pacific Coast Archaeological site also found a comal and several other artifacts (Map 2).

Many of the bowl and comal fragments, especially those found in the midden in fragmentary form, show signs of use; such signs are especially marked in certain of the vessels, which show burning on the outside, charred material on the inside. Signs of use were less common on the vessels in Feature 1, where unfinished vessels were found as well. These vessels were of a size to have been shaped into single-handled broad dishes, and one specimen had been shaped to a point at which the handle was distinguishable. Their outer surfaces were usually rough and battered, while their inner surfaces showed signs of gouging with a rough-edged tool.

General Distribution of Flaked Stone Tools: Tool types found in quarry areas on Catalina Island, presumably used in the manufacture of steatite objects, include pointed cores or picks, core-hammerstones, and other heavy flaked-stone tools (cf. Meighan 1957:Fig. 4). Such tools were found in some quantity in Feature 1 at SCAI-39, often with worn edges that closely conformed in shape to the manufacturing marks on the unfinished steatite vessels. It can be assumed that finishing steatite objects would require the use of light flake tools as well, for incising, scraping, notching, etc. Flake tools of quartz, quartzite, and chert were fairly common at SCAI-39; and their distribution was generally coincident with that of core tools. Both forms are lumped together in Map 3, and the distribution of each through the 10-20 cm. levels of all units is shown in Appendix 1. Flaked stone tools, generally, tend to cluster in Feature 1.

Evidence of Bead Manufacture: Although *Olivella* shell beads were found in considerable quantity with burials at SCAI-39, no evidence of their manufacture was located.

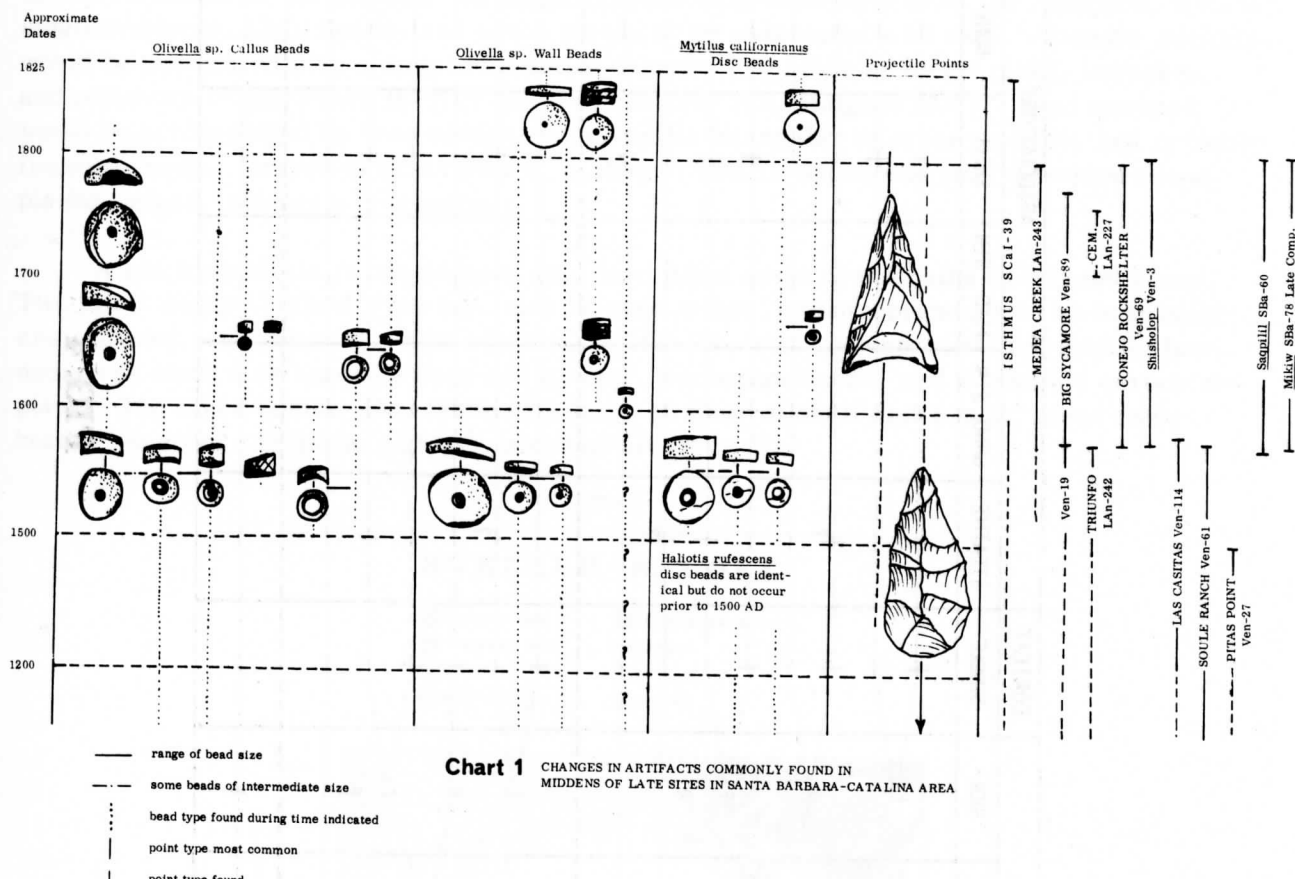
Evidence of Boat-building and Use: Several carbonized plank fragments were recovered from the Burial 10 Complex, which lay in a charcoal-rich matrix. These burned planks may or may not represent parts of plank canoes. Several asphaltum applicators were located in the garbage fill of Feature 2; and the presence of deepwater fish bone and circular shell fishhooks, recorded especially in Feature 2 and Unit 22, implies seagoing activities. The last line of evidence will be more adequately pursued when column samples of midden constituents have been analyzed, but in general the data seem to suggest boat use and repair, if not construction.

Evidence of Receipt of Mainland Goods: Quantification of midden constituents will substantially improve the chances of discovering evidence of the receipt of goods from the mainland, but such a study has not yet been undertaken. Field notes do indicate the presence of token amounts of Pismo clam (*Tivela stultorum*) and the presence of large land mammal bone in Unit 22. Carbonized seeds identified as corn by the UCLA Botany Department were found in association with the Burial 10 complex, and presumably came from the mainland mission farms.

Flakes and small cores of Miocene Monterey chert were found in several units; the presence of such cherts on Catalina is not indicated on current geological maps (Bailey 1959) though Franciscan cherts, also found at SCAI-39, do occur. The closest recorded outcrops of Monterey chert are on Palos Verdes Peninsula on the mainland directly to the east.

Dating SCAI-39 by Bead Chronology

Samples from both lobes of SCAI-39 indicate that they are contemporary through time. Glass trade beads and disk beads with small perforations date from the period of intensive European contact (between approximately 1771 and 1785) to around 1820; both kinds of beads are found in large quantities in the middens of the two areas. Beads of earlier time periods are less common. There are beads characteristic of the time period approximately dated on the Chronology Chart (Chart 1) as 1500-1600 A.D.; thus the site was occupied at least between 1600 and 1820; this is in agreement with historic accounts. No shell artifacts were found which are diagnostic of earlier time periods; however, the size of our sample does not allow us to say that the site was not occupied as early as 1200 A.D.



Mortuary Evidence of Status and Role

Excavations at SCAI-39 disclosed remains of about 31 individuals distributed through 7 test units and 3 backhoe trenches.

Burials were tabulated in terms of population profile data (age and sex), posture in the ground, orientation, number of individuals in the grave, and artifactual data. These data were used in a branching diagram typology (Figure 4), the utility of which has been demonstrated by a number of authors (Brown 1966:1-3, Stickel 1968:216, Decker 1970:9). Thirteen of our sample of thirty-one individuals were not suitable for this kind of analysis.

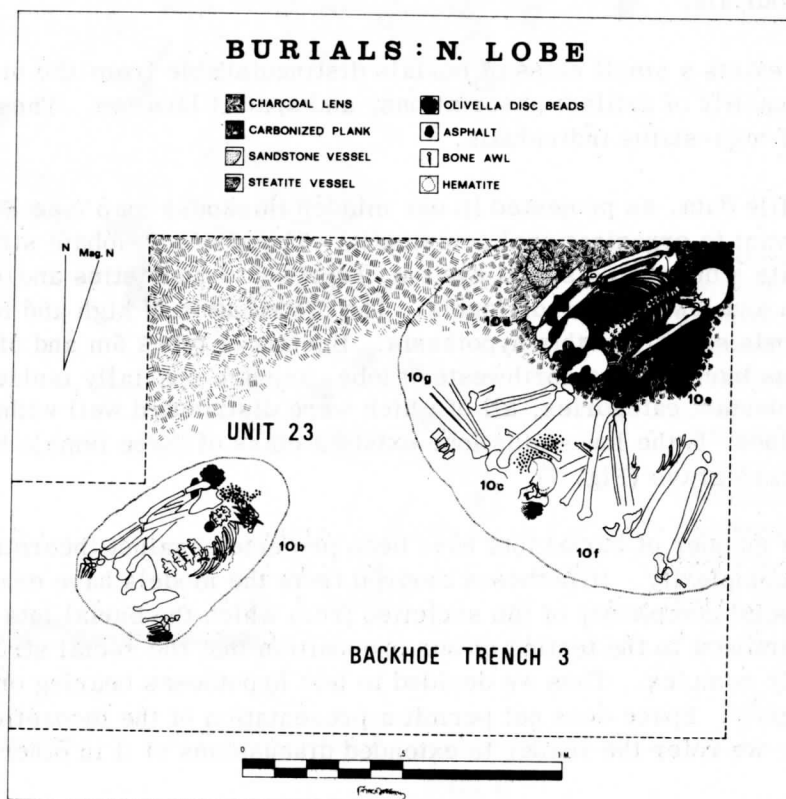
These individuals showed indications of recent disturbance. Ten of them were apparently reburied as partial bundles of bone by earlier excavators during the 1920's, a conclusion based on their association with a pickle jar analyzed by Michael Mannion; this may indicate that Ralph Glidden was the excavator. Some of these burials were associated with objects of recent manufacture (nails, tin cans, cast glass containers), while others had old shovel marks in their grave pits. Three other burials were demonstrably fragmented by power line trenching activities.

Thus our sample for analysis was 18 burials.

Test Implication 3e (above) generates a number of expectations. If entrepreneurs can be identified in the sample, we might expect exotic materials from the mainland, finished steatite objects, shell beads, and canoe planks to be associated with them. Steatite workers would be associated with unfinished steatite objects, and stone or metal picks, scrapers, and polishers (Schumacher 1879:119-20, Holmes 1900:183, Meighan 1957). Bead workers would be accompanied by bead blanks, small drills triangular in cross-section, and possibly finished beads. Graves of boat owners, builders, and/or operators should feature canoe planks, adzes, reamers, and asphalt.

A few individuals in our sample may have filled some of the roles as defined above. Two adult males, both of Type 5m, may be seen either as entrepreneurs or as boat builders, owners, or operators. One of them, Burial 10b, was accompanied by a steatite bowl, numerous shell disk beads, a bone awl cluster, carbonized corn, and a possible carbonized plank. The other burial, 10c, featured a large number of shell disk beads, glass trade beads, charcoal, hematite pigment, and asphalt (Fig. 5).

FIG. 5



It seemed possible that four other individuals occupied the role of steatite worker. Two are adult males and two are females. All were found in primary association with Feature 1 (Fig. 6), in which were recovered large numbers of finished, unfinished, and broken steatite objects, as well as large stone flake tools, hammerstones, and small quartz flake tools (all of these tool categories may be related to steatite working). It would, however, be somewhat far-fetched to visualize a situation in which steatite workers were covered with dirt where they fell, tools in hand, in their workshop. None of the four burials were directly associated with unfinished steatite objects or tools. The feature need not represent a steatite workshop *per se*, for it shares a number of attributes with features at two sites, Big Tujunga and Chatsworth in mainland Gabrieleño territory (Walker 1951a:112, 1951b:85-100), and these probably represent mortuary activities. Thus we cannot be confident that the four burials represent steatite workers.

Test implication 3e, then, is not strongly supported by our data. Some verification for it, however, is present in type 5m burials.

It was proposed that high and low status burials could be distinguished in the SCAI-39 sample because of the premise that social ranking is often a basis for population differentiation in more complex societies. Presumptive high status burials did occur in the sample, burials of Types 5m and 5f. These burials showed a number of formal attributes, making them a relatively homogeneous group distinguished through a number of dimensions from burials of other categories. Each individual was a mature adult, two being male, and two female. All occurred in a single mass grave pit. Male burials were associated with six and five artifact classes, and females with five and one, while no other class of burials was accompanied by more than three varieties of artifacts and most had no more than one. Each of the Type 5m and 5f burials was flexed ventrally. Of the other individuals, only two shared this burial posture. The mass grave from which these burials were taken was notably isolated from other burials.

Thus there exists a small class of burials distinguishable from the others in terms of burial posture, quantity of artifact associations, and spatial location. These appear to represent burials of high-status individuals.

Midden profile data, as projected in our midden thickness map (see Fig. 3) suggested a hypothesis relevant to organizational complexity. The site's bi-lobate structure could be expected to indicate a bifurcated social system, representing moieties and/or a residential separation of high and low status individuals. The distribution of high and low status, and deviant burials, lends support to this hypothesis. Burials of types 5m and 5f occurred exclusively in a mass burial in the northwestern lobe, and are spatially isolated from burials of low status and deviant categories, all of which were distributed well within the limits of the southeastern lobe. In the low status lobe exists a class of three female burials with a "donut stone" in each grave (Fig. 7).

Recently a number of burial lots have been projected against theoretical models of socio-structural complexity. Hypotheses derived from the models have enabled investigators to measure the social complexity of the societies from which the burial lots derive. This approach seemed pertinent to the testing of our proposition that the social structure of the village was relatively complex. Thus we decided to test hypotheses bearing on indications of structural complexity. Space does not permit a presentation of the theoretical basis for these hypotheses; we refer the reader to extended discussions of it in other works (Stickel

FEATURE 1: UNITS 15 & EXTENSIONS

- ABALONE OR WAVY TOP SHELL
- ◐ ARTIFACT
- UNMODIFIED COBBLE

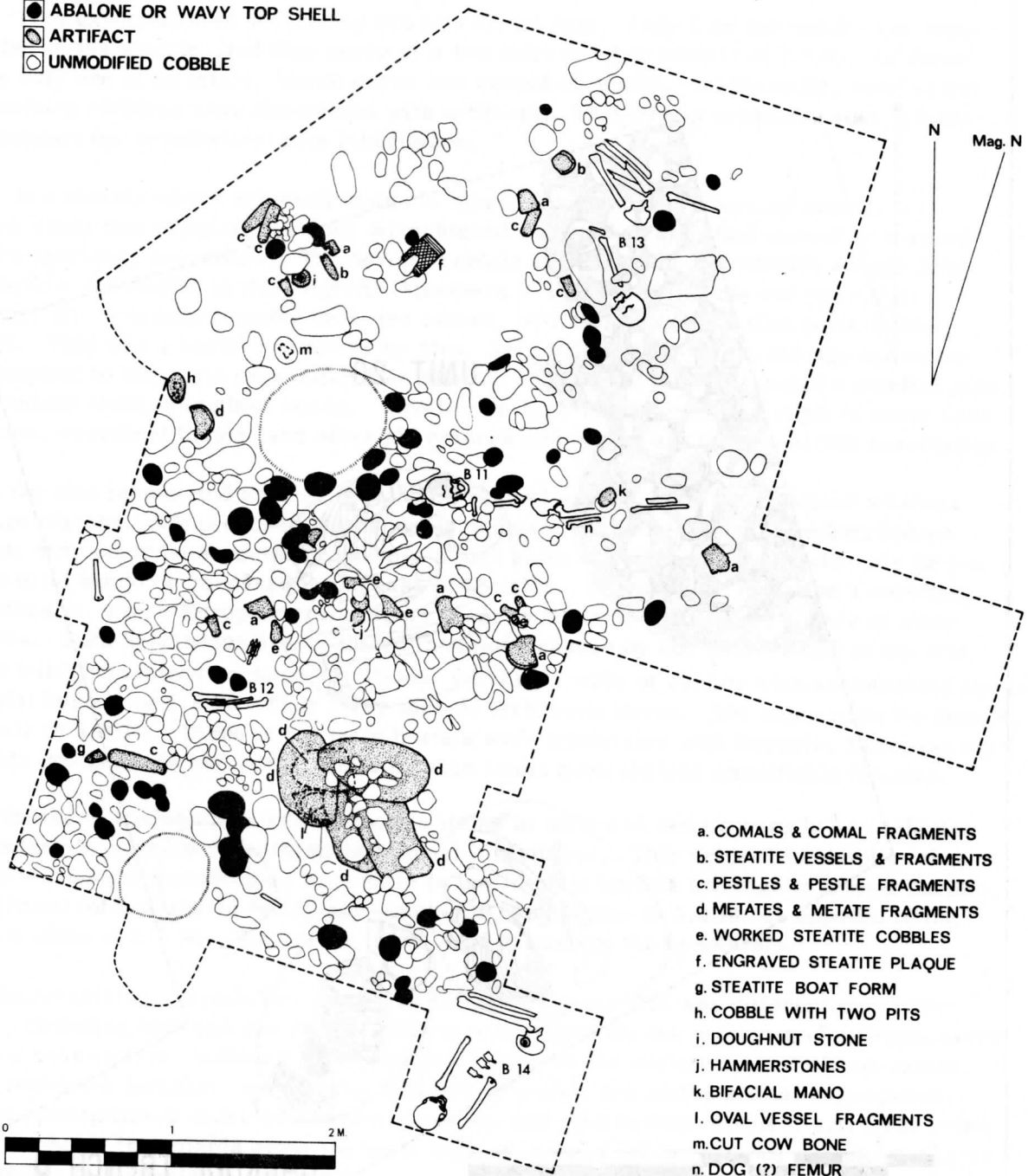





FIG. 6

BURIALS: S. LOBE

-  STEATITE DOUGHNUT STONE
-  COBBLES AND HALIOTIS SHELLS IN PIT
-  EMPTY PIT

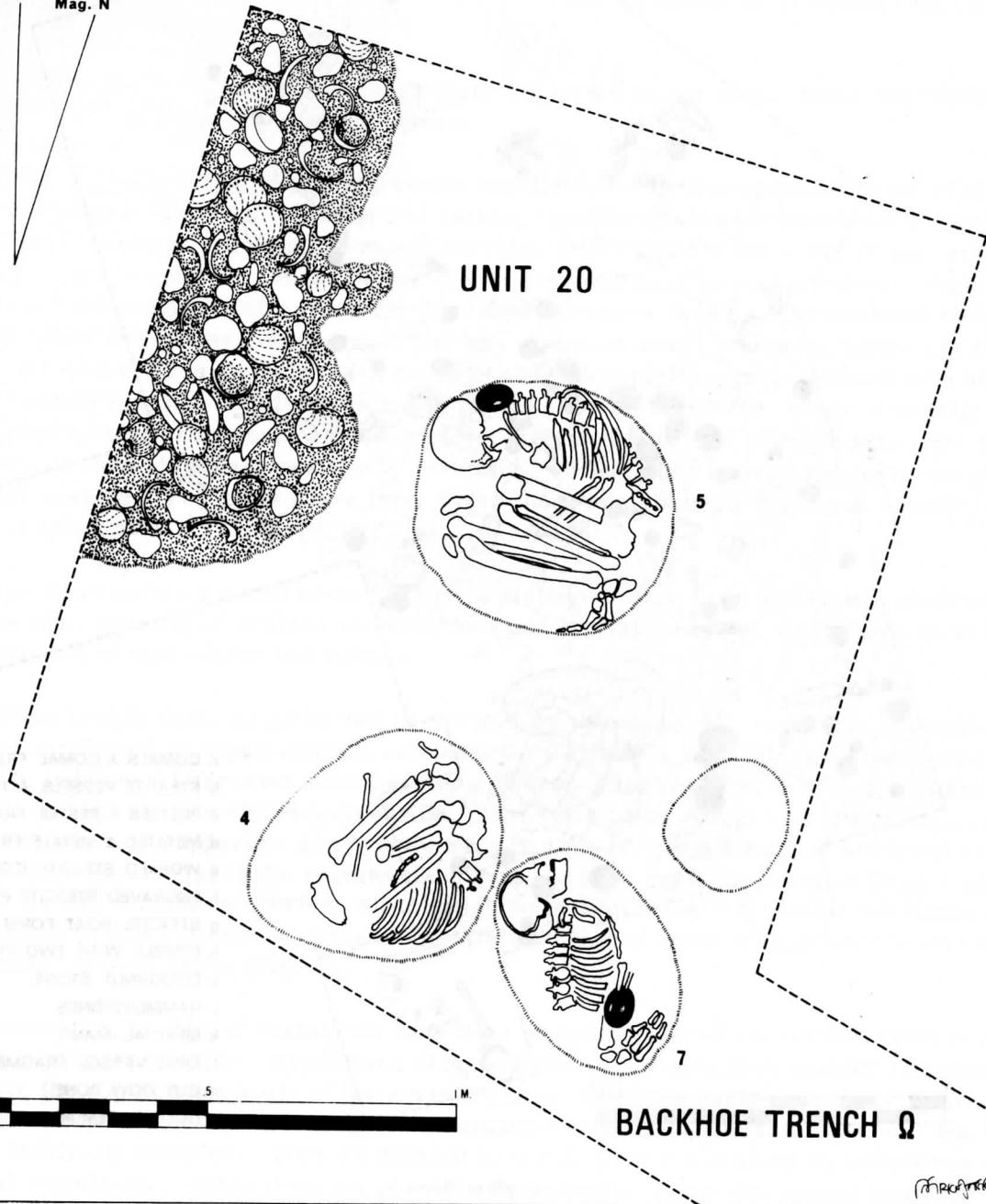


FIG. 7

1968:227, Decker 1969:4-6).

In more complex forms of social organization, the most important social roles tend to be ascribed rather than achieved. An index of ascription reflected in burial lots is the presence of infants associated with social role and trade-related items which, patently, they could not make or earn themselves.

This expectation is not met by SCAI-39 burial data. Only four sub-adults are represented in the sample, and they occur at a low ratio to adult burials of 1.8:10. Of these four only one is an infant, whose grave was devoid of goods. Additionally, none of the remaining children were associated with artifacts. This line of evidence, then, yields no support for hypothetical role inheritance.

In a society where achieved status is more important than ascribed status, it is more likely that physical deviance (an achieved rather than ascribed status) be marked in the mortuary procedure. The deviant burials at SCAI-39 do not provide enough data to make a conclusion in this regard. Members in this class include one individual (Burial 16), spatially isolated from the others, with two probable bullet holes in his skull. This was a burial recovered by Mrs. Jean Hill of Avalon in a salvage operation subsequent to our main excavation (See Map 2). This adult burial featured a steatite pipe, an abalone shell, and glass beads. Another deviant burial exhibited signs of acute bone lesions, vertebral fusion, and other aberrances and had no artifacts in direct association.

We also formulated another hypothesis related to artifactual correlations with sex or age classes. We proposed that if males occupied major ceremonial-redistributive roles, they could be expected to possess a high ratio of sociotechnic to technomic items. This ratio would be reversed in the case of females. Further, we proposed a corollary hypothesis: where European trade items occur in burials, they should appear in male graves. Both hypotheses are validated in some measure by our data. Eight of the nine male burials featured sociotechnic items, yielding a ratio of burials with sociotechnic items to total burials of 8.8:10. Only three include technomic items. The same ratio for female burials is 3.8:10. Three of the male burials were associated with intrusive European materials (glass beads and corn), while no such items accompanied identifiable females.

Ratios of sociotechnic vs. technomic items in male and female burials are relevant to another hypothesis concerning patrilineal inheritance. This proposition implies that if the technomic-sociotechnic item ratio is low in male burials and high in female burials, patrilineal inheritance is indicated. Our male burial ratio is 3.3:10, as opposed to the female ratio of 6.3:10. Our ratios, then, tend to support the hypothesis.

Summarizing, burials from SCAI-39 reflect a society that was differentiated internally, including high and low status. There is evidence for the existence of entrepreneurs and/or boat owners, builders, or operators. Rank in the society apparently co-varied with residence location, specifically in terms of a high-low status spatial segregation. Males predominated in the occupation of ceremonial-redistributive roles; and these roles were probably inheritable along the male line, in spite of the lack in our sample of infants assignable to high-status categories.

In conclusion, on a negative note, it could be forcefully argued that we have made

too much of a painfully small sample. We can only reply that the summary statements above should be taken to constitute more or less inadequately tested hypotheses regarding the pre-historic social organization on Catalina Island. However, we suggest that they be taken into account by investigators who propose to sample cemeteries on the island.

Ethnographic Evidence

Independent data concerning the presence and importance of trade on Santa Catalina may be drawn from certain historic and ethnographic accounts. The earliest Spaniards to mention the role of the Islanders in commerce are Vizcaino and Ascension who state, respectively, that "they are a people given to trade and traffic and are fond of barter" (Bolton 1930:84) and that "They live by buying, selling, and bartering" (Wagner 1929:237). Ascension mentions specifically that "The Indians carry to the mainland to sell..." certain edible roots from the Island (Wagner 1929:237), and Vizcaino lists the goods traded to his crew as "skins, shells, nets, threads, and very well twisted ropes" (Bolton 1930:84). On an accompanying map, Ascension draws a "pueblo" that corresponds to the location of SCAI-39 (Wagner 1929:235), and Vizcaino states that here were found "more than 300 Indians, men, women, and children" (Bolton 1930:85). Referring to the mainlanders of the late eighteenth century, Fages relates that "they have their rafts of reeds on which to go out to sea, and by means of these the Indians of the plain of San Gabriel communicate with the islanders of San Clemente and Santa Barbara" (Fages 1937:23). Martinez, writing in 1792, tells of sending an informant to gather "all the products of that island [Catalina]." The return consisted of "two seal skins, two sea otter skins, several strings of abalone and limpets, one of the small stones of silver and lead... and several others of quartz, sardonyx, and jasper...[and] some shells also" (Martinez 1938:52-53). Half a century later, Reid notes the presence of considerable trade within the Gabrielino area with deer skin and seeds from the interior being exchanged for "money, fish, sea otter skins, and soapstone pots," the latter coming from Catalina Island (Reid 1926:26). Spanish informants of Schumacher and Yarrow related in the 1870's that "the Indians had brought [steatite] ollas in canoe-loads from the islands of the Santa Barbara Channel to the mainland...the principle articles of barter given in exchange for the ollas being grass-seeds, furs, skins, acorns, and roots of different kinds" (Schumacher 1879:118). The latest account of Catalina trade is given by Alejo Potencio, a Cahuilla informant of the early twentieth century, who states that "shell money was received for the Palm Springs clan by his grandfather who received it from the Serrano at Mission Creek. They got it from the Gabrielino, who in turn received it from Santa Catalina Island," and that "shell money was brought across from Santa Catalina Island on tule rafts to the San Fernando people, who distributed it among the inland groups" (Strong 1929:95-96).

These historical accounts, though very general, are not inconsistent with our archaeological reconstruction of SCAI-39.

CONCLUSIONS

The data tend to support the hypothesis that SCAI-39 was a distribution center for island-mainland trade. The presence of diverse activities, permanent facilities, and cemeteries would indicate that the site was a village rather than a specialized site. The types of trade items recovered from SCAI-39 were limited; the absence of large quantities of beads, bead blanks, and drills suggests that steatite was the primary non-perishable trade

item manufactured and distributed from this site. The relatively short occupation of the site adds strength to the hypothesis that large scale aboriginal trade in southern California may be limited to the proto-historic and historic periods.

Cultural development in southern California consists of a series of exploitative innovations that allowed for a more efficient use of the natural environment rather than a situation of one or more major adaptive shifts, such as change from hunting and gathering to horticulture level of exploitation. These innovations undoubtedly lead to greater population density and restructuring of the social systems of these peoples. Since plant and animal communities are not widely dispersed, it is difficult to deal with these changes. The topic of trade has received little attention from archaeologists in southern California. Trade goods can serve as important measures of change in prehistoric exchange and value systems.

Of the ethnographically known items of trade (foodstuffs, hides, shell beads, chert and obsidian blanks and finished tools, steatite, and serpentine items) Catalina steatite may be the most useful measure of change. Catalina steatite can be differentiated from talc schists from other localities with a good degree of confidence. Furthermore, objects of steatite were popular trade items as evidenced by the large collections of artifacts made of this material from Santa Barbara, Ventura, and northwestern Los Angeles County. cursory surveys of these collections indicate that the bulk of large steatite artifacts are in proto-historic and historic associations.

Archaeologists have not addressed themselves to many questions associated with the Chumash interaction sphere of which the trade in steatite is a significant component. Questions such as how and why such a system arose and what its consequences were on the mainland and on the islands are difficult to deal with when a reliable descriptive sequence of subsistence-settlement systems is not available for the areas involved; but this should not stop the presentation of such questions. Catalina Island would be one of the best areas to ask these questions. The effect of such a trade system on the subsistence-settlement pattern of the island would be one line of inquiry. Perhaps there was little effect, since the island could have supported relatively permanent villages without extensive island/mainland trade.

The most productive approach to deal with trade related questions is to understand land use over time on the island. This is most easily accomplished by surface survey. Such a program has recently been defined by the Archaeological Survey at UCLA. Resource utilization, village permanency, and degree of specialization of tasks will be examined. This information should provide a perspective from which the extent of a complex trade system may be analyzed.

ACKNOWLEDGEMENTS

Even more than most archaeological projects, the excavation of SCAI-39 with its time and logistic problems would not have been possible without a great deal of aid and co-operation; we wish to express our sincere gratitude to the following individuals, institutions, and organizations:

Santa Catalina Island Company: Mr. Philip K. Wrigley, Mr. Malcolm Renton and staff

Catalina Cove and Camp Agency: Mr. Doug Bombard, Mr. George McElroy, and staff

Catalina Rock and Ranch Agency: Mr. Doug Propst

Bechtel Corporation: Mr. Douglas St. John, Mr. Dick Benz

Catalina Island Museum Society: Mr. Joe Guion, Mrs. Malcolm Renton, Mr. Jack Sargent, Mrs. Jean Hill

University of Southern California; Catalina Island Marine Biology Laboratory: Dr. Bob Given, Mr. and Mrs. Kim McClenaghan

Catalina Island School: Spencer Dennis, Chairman of Board of Trustees, Headmaster John Iverson, Business Manager James Adamson, Archaeologist Richard Snyder, Marine Biologist William Bushing, Archaeological Team members Joe Banning, Scott Barnes, Lew Caulk, Mike Corrigan, Lex Dampier, Mike Dennis, Andy Duncan, Richard Hoag, Chuck Piercy, Tim Rice, Fred Schwartzbach, Woody Woodward, Mrs. John Iverson, Mrs. James Adamson, Mrs. Sherman Herrick, Staff and Students.

CEDAM International: Ralph Butler, Andreas Rochnitzer

Pacific Coast Archaeological Society: Mrs. Helen Smith, Mrs. Aileen McKinney, Mrs. Lavinia Knight

UCLA Archaeological Survey and Department of Anthropology: Christopher Donnan, Nancy Fraley, Ted Gutman, John Kenagy, Jeff Jones, Al Koloseike, Bernie Newman, Lynn Tolmas, Jack Zahniser.

Mrs. Dorothy Cowper

Mr. James Rigg

The Peterson Family

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APPENDIX 1: DISTRIBUTION OF SELECTED CONSTITUENTS, 10-30 CM. LEVELS.

Unit	Total number of occurrences				Mean weight in grams/10 cm level				
	Utilized Flakes	Unmodified Flakes	Cores	Hammerstones	Steatite Sherds	Mammal Bone	Fish Bone	Bird Bone	
1	5	15	4	0	0	9.0	5.5	.5	
3	8	91	7	0	2	118.0	105.0	7.0	
4	9	96	4	2	30	244.5	39.5	9.0	
6	2	6	0	1	1	44.5	17.0	2.0	
7	2	7	0	0	0	23.0	11.5	1.5	
8	4	46	2	2	3	51.0	30.5	2.5	
9	4	35	1	2	9	15.0	9.0	1.0	
10	1	4	0	4	9	14.5	6.0	1.5	
11	6	56	3	0	3	166.6	45.0	13.0	
13	12	69	11	1	2	147.5	68.5	14.5	
14	4	14	4	0	0	49.0	52.3	2.0	
15	0	83	0	3	0	48.0	56.0	4.5	
16	1	4	5	1	0	62.5	79.0	3.5	
20	5	20	2	0	0	113.5	40.5	6.0	
21	7	123	4	1	0	190.2	41.5	5.0	
22	3	21	4	0	5	116.0	54.5	7.0	

Appendix 2

Burial Number	Unit	Depth	Age	Sex	Position	Orientation (Head pointing)
1A	10	25 cm	2 adults 1 child	-	potted reburial	-
1B	17 & 18	53 cm	-	-	"	-
2	8	3-20 cm	1 adolescent 1 partial adult	♀♂	disarticulated	-
3	4	25 cm	45 + 30 + adolescent	♂♂	potted reburial	-
4	20	20-30 cm	adult	-	flex-left	SW
5	20	25-40 cm	35 +	♀	flex-right	W-NW
6	Л. E end	85 cm	50 ±	♂	frog	SW
7	20	30-40 cm	25 +	♀	flex-left	N
8	Tr. 14	50 cm	45 +	♀	frog	N
9	Л. W extension	75-85 cm	25 + infant	♂ ?	potted? flex-right	- S
10A	23	34+ cm	3 adults, fragmented by trenching machinery			
10B	23	68 cm	17-18	♂	frog	E-NE
10C	23	75 cm	35?	♂	frog	NE
10D	23	70 cm	30 ±	♀	frog	NE
10E	23	87 cm	30	♀	frog	NE
10F	23	90 cm	30	?	disarticulated	-
10G	23	75 cm	-	-	disarticulated	-
11	15	89 cm	50 ±	♂	Extention (?)	W
12	15 extension	58 cm	20 +	♂	flex-right (?)	W
13	15 extension	50 cm	40	♀	knee-flex left	SE
14	15 extension	56 cm	50 ±	♀	loose flex on back	SW
15	Tr. 1	20-30 cm	adult	?	potted reburial	-
16	Cliff	80 cm	30	♂	flex-left	SE

Burial Data

Pathology/ Anomaly	Associations	Remarks
-	<u>Haliotis</u> shells, a few <u>Olivella</u> beads tin cans, jars, fragments	Pickle jar dated ca. 1920, excavated by Glidden?
-	-	Only a few ribs present
-	1 <u>Olivella</u> S. L. bead/ 1 square nail behind skull	
lgr. adult--bone de- terioration, lumbar fusions, etc.	many <u>Olivella</u> and glass beads in matrix	Shovel-marks under bones
-	-	Poorly preserved
paridontal pathology	donut stone near skull	
" "	shell & serpentine bead necklace, in situ	2-strand necklace
-	donut stone near sternum	
-	3 <u>Haliotis</u> shells, 1 plugged, over pelvis	
-	-	
-	-	
	Many beads, chert knife, flakes	
-	<u>Olivella</u> beads, steatite bowl, cluster of bone awls, carbonized plank, asphaltum, yellow ocher	
osteoarthritic lumbar	<u>Olivella</u> & trade beads, charcoal	
-	Carbonized basket frags, 2 steatite bowl frags, 2 mortar frags, comal frag, <u>Olivella</u> beads.	
-	Lies in bed of charcoal, <u>Olivella</u> beads	bones not burned
-	<u>Olivella</u> beads	
-	-	poorly preserved
-	canid femur adjacent to left femur	
-	-	
-	-	
-	large steatite bead in matrix, fishhook blank on pelvis	
-	-	many beads in adjacent pits
2 holes, .375 cm & .405 cm diam, in back of skull	small green talc pipe, 9 limpet rings, glass beads, <u>Haliotis</u> shells	excavated by Mrs. J. Hill when found eroding from bank.